

REMARKS

This application has been carefully reviewed in light of the Office Action dated May 25, 2004. Claims 87 and 97 have been amended. Claims 100-115 have been added. A Petition for Extension of Time (two-months) and an RCE are concurrently filed herewith. Applicant respectfully requests reconsideration of the above-referenced application in light of the foregoing amendments and following remarks.

Applicant's undersigned representative acknowledges with gratitude the telephonic interview of August 27, 2004. In the telephonic interview, the primary reference Fritz (U.S. Patent No. 3,743,978) and the pending claims of the application were discussed. No agreement was reached.

The Examiner, however, acknowledged that Fritz's FIG. 6, illustrated an RF filter comprising layers 16-19 embedded within a portion of circuit board 20. The RF filter was connected to circuits 21 and 22 by RF strip leads 23 and 24. Accordingly, the Examiner acknowledged that it seemed that Fritz's RF filter does not support an integrated chip as Applicant's claim if RF strip leads were used to connect the circuit 21 to the RF filter. Moreover, the Examiner acknowledged that elements 21 and 22 seemed to be supported by Fritz's circuit board 20.

Claims 87, 89-90, and 93 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Fritz. The rejection is respectfully traversed.

The claimed invention is directed to a method of forming a "structure for supporting an integrated circuit chip . . . said method comprising: forming a substrate; forming an insulating layer over said substrate; providing a support surface for an integrated circuit chip, said substrate, insulating layer and support surface forming part of a chip carrier; and supporting an integrated circuit chip with said chip carrier, said

chip carrier having a top and bottom surface, wherein a layer of magnetic field shielding material is formed on said integrated circuit chip,” as recited in claim 87.

In other words, Fritz does not teach that a layer of magnetic field shielding material is formed on the integrated circuit chip. Fritz relates to a low pass radio frequency filter (“RF filter”) (Col. 1, line 10). Fritz does not teach a chip carrier, much less a chip carrier supporting an integrated circuit chip having a layer of magnetic field shielding material.

As the Examiner acknowledged in the August 27, 2004 telephonic conference, elements 21 and 22 (which Examiner contends is analogous to Applicant’s claimed integrated circuit chip) are formed on the circuit board 20 and not on the RF filter (which Examiner contends is analogous to Applicant’s claimed chip carrier). The RF filter does not support element 21, circuit board 20 does. The RF filter is merely connected to element 21 by RF strip leads 21 and 22.

As illustratively shown in the exemplary embodiment of Applicant’s FIG. 3, Applicant’s claimed chip carrier 200 comprises substrate 120, an insulating layer 140 formed over the substrate, a support surface 160 supporting the integrated chip 300, and a layer of magnetic field shielding material 110 formed on the integrated chip 300. This is a completely different structure than the RF filter disclosed in Fritz (FIGS. 6-8).

Claims 88-90 and 93 depend from claim 87 and are allowable for at least the reasons set forth above with regard to independent claim 87. Withdrawal of the § 102(b) rejection is respectfully solicited.

Claims 88 and 98-99 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Fritz in view of Dahringer. The rejection is respectfully traversed.

Claims 88 and 98-99 depend from claim 87. For at least the reasons provided above, Fritz does not teach or suggest claim 87. In particular, Fritz does not teach or suggest a chip carrier or an integrated circuit chip having a layer of magnetic field shielding material formed on it. Dahringer is relied upon for disclosing a second layer of magnetic field shielding material on the top and bottom of a chip carrier, and adds nothing to rectify the deficiencies of Fritz.

Claims 91-92 and 94-96 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Fritz in view of Tracy. The rejection is respectfully traversed.

Claims 91-92 and 94-96 depend from claim 87 and are allowable for at least the reasons set forth above with regard to independent claim 87. Fritz does not teach or suggest a layer of magnetic field shielding material formed on the integrated circuit chip. Tracy is relied upon for disclosing a magnetic RAM device and magnetic materials and adds nothing to rectify the deficiencies of Fritz.

Claim 97 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Fritz in view of Higgins, III. Reconsideration is respectfully requested.

Claim 97 depends from claim 87 and is allowable for at least the reasons set forth above with regard to independent claim 87. Fritz does not teach or suggest a layer of magnetic field shielding material formed on the integrated circuit chip. Higgins, III is relied upon for disclosing a second layer of magnetic field shielding

material formed on a chip electrically coupled to a chip carrier, and adds nothing to rectify the deficiencies associated with Fritz.

Moreover, the prior art of record does not teach or suggest “[a] method of forming a structure for supporting an integrated circuit chip, which chip may be affected by external magnetic fields, said method comprising: forming a substrate; forming an insulating layer over said substrate; forming an elastomeric layer over said insulating layer, said substrate, insulating layer, and elastomeric layer forming part of a flip-chip carrier; and electrically coupling a chip with said flip-chip carrier, said chip having a top and bottom surface, wherein said chip further comprises a layer of magnetic field shielding material formed on said top surface,” as recited in claim 100.

The cited references do not teach or suggest an elastomeric layer, or that a layer of magnetic field shielding material is formed on a top surface of a chip, as recited in claim 100. The cited references also do not teach or suggest that the “substrate comprises a flexible tape,” as recited in claim 108, or that the “substrate is a polyimide tape,” as recited in claim 109. The cited references do not teach or suggest “forming conductive traces within said insulating layer,” as recited in claim 114, or “forming conductive traces between said insulating layer and said support surface,” as recited in claim 115.

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In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

Dated: August 31, 2004

Respectfully submitted,

By 

Thomas J. D'Amico

Registration No.: 28,371

DICKSTEIN SHAPIRO MORIN &

OSHINSKY LLP

2101 L Street NW

Washington, DC 20037-1526

(202) 785-9700

Attorney for Applicant